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(54) Fiber optic gyroscope

(57) A method for providing an optical fiber coil having reduced bias vibration and bias temperature-ramp sensitivity by controlling and adjusting coil geometrical factors including the coil potted length, the adhesive layer thickness, the number of turns per layer, the number of layers and the way the winding is terminated. The windings may be terminated to form the coil as a complete quadrupole, a dipole, an incomplete quadrupole or an incomplete dipole. By adjusting geometrical factors of the coil design, a coil for which the residual net Shupe bias is negligible is obtained.

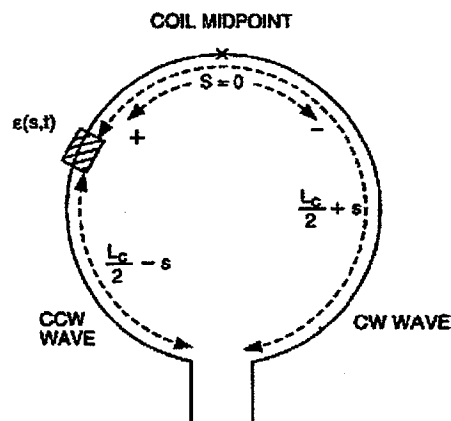


FIG. 1

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PARTIAL EUROPEAN SEARCH REPORT

Application Number

which under Rule 45 of the European Patent Convention EP 98 30 3162
shall be considered, for the purposes of subsequent
proceedings, as the European search report

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cls.)
X	US 5 371 593 A (CORDOVA AMADO ET AL) 6 December 1994 (1994-12-06) * column 1, line 49 - column 2, line 9 * * column 4, line 33 - column 8, line 10; figures 3-8 *	1-13	601C19/72
D,A	US 5 546 482 A (CORDOVA AMADO ET AL) 13 August 1996 (1996-08-13) * column 2, line 6 - line 36; figures 5-8 *	1-13	
			TECHNICAL FIELDS SEARCHED (Int.Cls.)
			601C
INCOMPLETE SEARCH			
<p>The Search Division considers that the present application, or one or more of its claims, does/do not comply with the EPC to such an extent that a meaningful search into the state of the art cannot be carried out, or can only be carried out partially, for these claims.</p> <p>Claims searched completely :</p> <p>Claims searched incompletely :</p> <p>Claims not searched :</p> <p>Reason for the limitation of the search:</p> <p>see sheet C</p>			
Place of search		Date of completion of the search	Examiner
THE HAGUE		10 February 2000	Boerrigter, H
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

EPO FORM 1608 (11-92) (P.04007)



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**INCOMPLETE SEARCH
SHEET C**

Application Number
EP 98 30 3162

Claim(s) searched completely:

13

Claim(s) searched incompletely:

1-12

Reason for the limitation of the search:

Present claims 1-12 relate to a method defined by reference to a desirable characteristic or property, namely a method for reducing errors caused by the Shupe effect by controlling the length of an optical fiber coil so its potted length provides a reduction in that Shupe effect.

The claims cover all methods having this characteristic or property, whereas the application provides support within the meaning of Article 84 EPC and/or disclosure within the meaning of Article 83 EPC for only a very limited number of such methods. In the present case, the claims so lack support, and the application so lacks disclosure, that a meaningful search over the whole of the claimed scope is impossible. Independent of the above reasoning, the claims also lack clarity (Article 84 EPC). An attempt is made to define the method by reference to a result to be achieved. Again, this lack of clarity in the present case is such as to render a meaningful search over the whole of the claimed scope impossible. Consequently, the search has been carried out for those parts of the claims which appear to be clear, supported and disclosed, namely those parts relating to the methods in which the length of the fiber optic coil is controlled to have a value of $197 \pm 0.5 \mu$, as is disclosed by the applicant on page 26 of the application, items number 4 and 5.

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 98 30 3162

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

10-02-2000

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 5371593 A	06-12-1994	EP 0694761 A DE 9422288 U	31-01-1996 07-10-1999
US 5546482 A	13-08-1996	NONE	

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For more details about this annex : see Official Journal of the European Patent Office, No. 12/82